

Attorney Docket: 2229/154

## **Evaporative Burner**

### **Abstract**

5           An evaporative burner that includes an igniter assembly, a swirler, an evaporation  
chamber, and a reverse throat. The reverse throat has raised ends that protrude into the  
evaporation chamber. The reverse throat in combination with the evaporation chamber and  
the swirler, facilitate the recirculation of air in the evaporation chamber such that a flame is  
stabilized near the evaporation chamber walls. This flame gradually evaporates the fuel in  
10 the lining of the evaporation chamber. The fuel-air mixture results in a steady and uniformly  
distributed flame in the combustion chamber. This flame can heat uniformly the walls of the  
combustion chamber, and thus be applicable for high efficiency and low emissions  
applications. Furthermore, this burner can start and reach full burner power rapidly.